



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,203	11/21/2003	David Monroe Bell	GCSD-1461 (51330)	1976
27975	7590	10/11/2007	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			NGUYEN, CUONG H	
			ART UNIT	PAPER NUMBER
			3661	
			NOTIFICATION DATE	DELIVERY MODE
			10/11/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

creganoa@addmg.com

<p align="center">Office Action Summary</p>	Application No. 10/719,203	Applicant(s) BELL ET AL.	
	Examiner CUONG H. NGUYEN	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/16/07 (THE AMENDMENT).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____ |
|--|--|

DETAILED ACTION

1. This Office Action is the answer to the amendment received on 7/16/07 which paper has been placed of record in the file.
2. Claims 1-25 are pending in this application.

Response

3. The applicants claim about a system to collect data as it travels along a road; the examiner's position is that claimed system is still the same (it clearly MUST BE, at least its structure and components) whether it is stationery or it is moving along a road; therefore, the examiner maintains previous rejections – note that in a claimed phrase such as “a down-looking line scan camera for mounting on a vehicle to obtain a series of line scan images of the road as the vehicle travels therealong”, “for mounting on a vehicle to obtain a series of line scan images of the road as the vehicle travels therealong” is merely an intent of use for a system such as claim 1; therefore, this is not “a down-looking line scan camera” limitation (the recitation of a new intended use for an old product does not make a claim to that old product patentable - *in re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997)).

On page 10, 1st para., the applicants argue that the examiner is using hindsight reconstruction based on Applicants' own specification to combine, the examiner submits that *In re Sheckler*, 168 USPQ 716 (CCPA 1971), it already taught:

While appellant urges that the rejection is sustainable only upon hindsight reconstruction of the prior art, we are not at all convinced that that is so. Like the board, we are persuaded that the differences in material or form between the subject matter claimed and prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. It is, of

course, not necessary that either Barnes or Dryden actually suggest, expressly or in so many words, the changes or possible improvements appellant has made. See *In re Rosselet*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183 (1965); *In re Rauen*, 53 CCPA 937, 356 F.2d 125, 148 USPQ 554 (1966). All that is required to show obviousness is that the applicants "make their claimed invention merely by applying knowledge clearly present in the prior art. Section 103 requires us to presume full knowledge by the inventor of the prior art in the field of his endeavor." See *In re Winslow*, 53 CCPA 1574, 1578, 365 F.2d 1017, 10020, 151 USPQ 48, 50-51 (1966).

The test for combining references is not what the individual references themselves suggest but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-2, 8, 19, 21, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Martin (US Pat. 6,243,131)

A. As per claim 1: Sakuma et al. teach a data collection system comprising: a positioning system to generate position and time data; a line scan camera for mounting on a vehicle

to obtain a series of line scan images (see Sakuma et al., Fig. 1 ref. 108-109, Fig. 25, Fig. 26 ref. 3411-3412, and the abstract – note that “a down-looking line scan camera” is structural constructed exactly as a cited line scan camera); and a data collection controller connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data (see Sakuma et al., Fig. 26 ref. 3402, 3404).

Sakamura et al. do not disclose a down-looking line scan camera mounted on the vehicle to obtain a series of line scan images of the road (note that “to obtain a series of line scan images of the road” is inherently a characteristic of Sakamura/Martin ‘s camera.

However, Martin teaches that limitation (see Martin, col. 1 lines 35-57); and a data collection controller, carried by the vehicle and connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data, the data collection controller comprising an image processor to identify and mark road features in the line scan images.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin’s teaching with Sakuma et al.’s line scanning camera for using the Martin’s specific camera to obtain data while traveling along a road because this kind of specific camera is for taking line scanning pictures.

B. As per claim 19: The method that comprises steps to obtain claim 1 results by making/using claim 1’s system are inherent with Sakuma et al.’s teaching.

C. As per claims 2, and 21: Sakuma et al. also use a database to store line scan images and corresponding data (e.g. accumulated positions, and time data) may be stored in MEMORY IMAGE 103 in FIG. 1.

D. As per claims 8, and 25: Sakura also teaches a display device connected to the data collection controller to display the line scan images (see Sakura et al., Fig.1 ref. 104).

5. Claims 5-6, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Martin (US Pat. 6,243,131)

The rationales and reference for rejection of claim 1 are incorporated.

Sakamura et al. teach a mobile road-centerline data collection and processing system comprising: a vehicle for traveling along a road; a positioning system carried by the vehicle to generate position and time data.

Sakamura et al. do not disclose a down-looking line scan camera with an attached wide-angle lens (i.e., fish eye lens are very wide angle lens with a bulging glass outer element) mounted on the vehicle to obtain a series of line scan images of the road.

However, Martin teaches that limitation (see Martin, col. 1 lines 35-57); and a data collection controller, carried by the vehicle and connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data, the data collection controller comprising an image processor to identify and mark road features in the line scan images.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for using the Martin's approach for the advantage of using fisheye lens to collect data, and using the desired output picture element in the input memory buffer (they are calculated); and the memorized input data is sequenced through as directed by the distortion correcting calculations.

6. Claims 3, 9-10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1).

The rationales and reference for rejection of claim 1 are incorporated.

A. As per claim 3: Sakuma et al. do not disclose about using a GPS.

However, Kimura suggests that idea (see Kimura, Fig. 2 “GPS Receiver 23”).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Sakuma et al. ’s teaching with Kimura’s suggestion to obtain positions of related location by an available GPS because that has been a common source to obtain accurate related data.

B. As per claims 9, and 20: The rationales and reference for rejection of claim 1 are incorporated.

Kimura also suggests that an image processor identifies/detects/determines and mark/select a recorded road feature (a line scan image), (see Kimura, para. [0075].

C. As per claim 10: The rationales and references for rejection of claim 1 are incorporated.

Kimura also suggests that an image processor identifies/determine road edges for storing (see Kimura, Figs. 14-15, para. [0075], and a lane marker detector 14).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), and in view of Bennett (US Pat. 6,747,686).

The rationales and references for rejection of claim 3 are incorporated.

Sakuma et al. and Kimura do not disclose an Inertial Navigation System.

However, Bennett discloses a positioning system for a line scan camera to collect necessary data comprises an Inertial Navigation System (INS) (see Bennett, col: 10 lines 39-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al. and Kimura with Bennett to discloses a positioning system comprises an Inertial Navigation System for an advantage of using an available type of dead-reckoning navigational system, which is based on the measurement of vehicle's accelerations.

8. Claims 7, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), further in view of Migdal et al. (US Pat. 5,995,650).

The rationales and reference for rejection of claim 1 are incorporated.

Sakuma et al., and Kimura's references do not disclose a controller comprises: a central processing unit (CPU or processor), and a frame grabber.

However, Migdal et al. suggest that idea (see Migdal et al., col. 12 line 58 to col. 13 line 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., and Kimura with Migdal et al. to suggest a controller comprises a central processing unit and a frame grabber for the advantage of using a video controller having a frame grabber which enables the controller to accept collected images of video information and process it.

9. Claims 11-13, and 15-16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), and in view of Martin (US Pat. 6,243,131).

The rationales and reference for rejection of claim 1 are incorporated.

A. As per claim 11: This claim is directed to a mobile data collection system, all the limitations in claim 11 are made by incorporating limitations from claims 1, 5, and 9; therefore, rationales and references for rejection of claim 11 are incorporated.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin and Kimura 's teachings with Sakuma et al.'s line scanning camera for a digital line scan camera having an attached wide-angle lens, and an image processor to identify and mark road features in the line scan images for an advantage of using a well-known and conventional distortion correcting calculations for used image processor.

B. As per claim 12: Sakuma et al. also use a database to store line scan images and corresponding data (e.g. accumulated positions, and time data) may be stored in MEMORY IMAGE 103 in FIG.1.

C. As per claim 13: Sakuma et al. do not disclose about using a GPS.

However, Kimura suggests that idea (see Kimura, Fig. 2 "GPS Receiver 23").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Sakuma et al., and Martin 's teachings with Kimura's suggestion to obtain positions of related location by an available GPS for the advantage of using a reliable source for obtaining position data.

D. As per claim 15: The rationales and reference for rejection of claim 11 are incorporated.

Sakuma et al. do not disclose a digital line scan camera and an attached wide-angle lens.

However, Martin teaches that limitation (as above see Martin), and fish eye lens are wide angle lens as noted above (claims 5-6, and 11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for a digital line scan camera having an attached wide-angle lens for an advantage of using a well-known and conventional distortion correcting calculations.

E. As to claim 16: The rationales and reference for rejection of claim 11 are incorporated.

Sakamura et al. teach a mobile road-centerline data collection and processing system comprising: a vehicle for traveling along a road; a positioning system carried by the vehicle to generate position and time data.

Sakamura et al. do not disclose a down-looking line scan camera with an attached wide-angle lens (i.e., fish eye lens are very wide angle lens with a bulging glass outer element) mounted on the vehicle to obtain a series of line scan images of the road.

However, Martin teaches that limitation (see Martin, col. 1 lines 35-57); and a data collection controller, carried by the vehicle and connected to the positioning system and the line scan camera to associate line scan images with corresponding position and time data, the data collection controller comprising an image processor to identify and mark road features in the line scan images (note that these limitations are already obvious in cited references).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Martin's teaching with Sakuma et al.'s line scanning camera for using the Martin's approach for the advantage of using fisheye lens to collect data, and using the desired output picture element in the input memory buffer (they are calculated); and the memorized input data is sequenced through as directed by the distortion correcting calculations.

F. As per claim 18: Sakura also teaches a display device connected to the data collection controller to display the line scan images (see Sakura et al., Fig.1 ref. 104).

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), in view of Martin (US Pat. 6,243,131), and in view of Bennett (US Pat. 6,747,686).

The rationales and references for rejection of claim 13 are incorporated.

Sakuma et al. and Kimura do not disclose an Inertial Navigation System.

However, Bennett discloses a positioning system for a line scan camera to collect necessary data comprises an Inertial Navigation System (INS) (see Bennett, col. 10 lines 39-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., Martin and Kimura with Bennett to discloses a positioning system comprises an Inertial Navigation System for an advantage of using an available type of dead-reckoning navigational system, which is based on the measurement of vehicle's accelerations.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma et al. (US Pat. 6,766,038), in view of Kimura (US Pub. 2001/0056326 A1), further in view of Migdal et al. (US Pat. 5,995,650).

The rationales and reference for rejection of claim 11 are incorporated.

Sakuma et al., and Kimura's references do not disclose a controller comprises: a central processing unit (CPU or processor), and a frame grabber.

However, Migdal et al. suggest that idea (see Migdal et al., col. 12 line 58 to col. 13 line 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Sakuma et al., and Kimura with Migdal et al. to suggest a controller comprises a central processing unit and a frame grabber for the advantage of using a video controller having a frame grabber which enables the controller to accept collected images of video information and process it.

Conclusion

12. Claims 1-25 are not patentable. The argument(s)/response(s) for previous Office Action are not persuasive. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

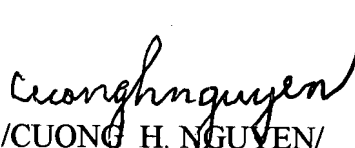
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759 (email address: cuong.nguyen@uspto.gov). The examiner can normally be reached on 9:30 am - 5:30 pm Mon.-Tues., and Thur. – Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.


/CUONG H. NGUYEN/
Primary Examiner
Art Unit 3661